

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: Jeffrey Herman <jeffrey@math.hawaii.edu>  
Subject: Re: Brine Loads  
Message-ID: <Pine.SUN.3.91.951020205317.7903B-100000@kahuna>

Below the waterline of any fiberglass yacht you'll find the metal fittings are made from bronze. That seems to be one of the only affordable metals that will stand up to salt water.

Jeff NH6IL (who sails his 15 foot "yacht" off of Waikiki Beach and Diamond Head)

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: TOM.A.ADAMS@mail.admin.wisc.edu  
Subject: Canadian Boatanchors  
Message-ID: <FAKL4724.FAKL4735@mail.admin.wisc.edu>

to: boatanchors@theporch.com

Greetings, Troops!

I just wanted to pass along some experiences in bringing BA rigs into the US from Canada. If you're like me, you might think that bringing a rig in is a major pain in the butt, but it's not that bad; in fact, there's definite advantages to doing it!

A couple of weeks ago, Jerry Proc posted a message re. a BA sighting up in Toronto. It hit my machine about 2300 local time, and at first I paid it no attention; I was getting ready to get out of work for the night. Thank goodness DID read it before leaving!

As many of you know, I am a long wave / VLF nut. There are a few rarely seen and hard to get radios that are considered the Holy Grail of LF DXing gear. One of them is the Hammarlund SP-600-VLF-31. Jerry spotted one in Toronto.

The ONLY time I've ever heard of one of these being sold was at an auction in the Virgin Islands (I got a sale flyer in the mail two weeks after the sale had been held). I thought my quota of good luck had been played out for this year when I got hold of a Collins R-389; apparently that wasn't the case. This rig is MORE than worth dealing with humongous shipping costs and hassles with the Customs folks as far as I'm concerned. We're talking a radio that's hen's denture rare here; Hammarlund just make very many, so GO FOR IT!

A very early morning call to Globe Electronics snagged the rig, provided I made arrangements for shipping and Customs clearance at this end. I get the impression that Globe is a small, Mom and Pop sorta operation that seldom has

to ship anything; I had to give packing instructions over the phone, and assure them that I'd deal with Customs. Further, to make it as easy for 'em as possible, I set up a package pickup from thier shop.

Contacting UPS didn't work in this case. I discovered that the US weight limit IS NOT used by Canadian UPS; they will only go to 75 pounds, and I estimated the packed weight of the radio at 100. Even MORE novel; I was informed that on cartons over 50 pounds Canadian UPS requires that the box have HANDLES!

Time was of the essence, so I grabbed the Yellow Pages and hit the first air freight company I saw. That was the expensive way, but I just HAD to set up something quick; I could feel the hot breath of all the other VLF freeks who read the message on the back of my neck!

Terry O. and I had some dealings with air freight in this application before, shipping a couple of T-195/GRC-19 sets out of Toronto. On that occasion I made the interesting discovery that air freight costs between US and Canada were MUCH lower than costs between US cities of comparable distance. I think that crossing the border negates some of the intrastate tariffs that normally make the game so costly.

On the T-195s tho we dealt with a Customs broker to smooth the way. Once again I didn't have time to screw around with that. Besides, after looking over the T-195 paperwork it appeared that it wasn't too big a deal on this, and I felt I could get by without the broker's services.

The biggie on that transaction was that no duty had to be paid at Customs, because the T-195 had been built in the US of A (Collins @ Cedar Rapids). All we had done was reimport a set with little or no commercial value.

Hammarlund gear fell into the same category, since the corporate mailing address was New York City.

At the request of the shipper, I FAXed a sheet to them stating

- 1- The sender's name, address, and phone number
- 2- The recipient's name, address, and phone number
- 3- A description of the carton contents ("Lab grade radio receiver")
- 4- A statement of it's value ("Obsolete equipment; no commercial value")
- 5- A statement that it had originally been made in the US.

I also included instructions to the shipper ("Pick up at sender's address. All shipping charges will be paid by recipient upon delivery. Please try to give 12 - 24 hours advance notification before delivery").

For a week I heard nothing. I then heard from the shipper's Toronto office, wondering where in the hell the Customs paperwork was. I explained that the info had been FAXed to the local office. They should call there and ask for

"Carlos".

I was beginning to get a BAD feeling about this whole deal. I was kinda worried about the whole transaction, but all I could do was wait for disaster to strike, and try to deal with it when it came. All of a sudden I wished I'd bothered to dig up a Customs broker.

This past Monday morning I was awakened early by my dogs raising hell about somebody knocking on THIER door... THE RADIO IS HERE!!!

Now come the good parts.

I asked the driver how much the delivery charges are. "Nothing" he said. It's all paid for"!

The shipper didn't have my charge card number, and I didn't think that Globe had provided it to them. That was confirmed a couple of hours later when the mailman happened to bring my credit card bill. A charge from Globe was there, but none for the shipper; these guys forgot to bill me!

If they don't send a bill at the beginning of November, I'll call up and try to straighten this whole thing out.

The next pleasant surprise came because of the US / Canadian exchange rate. The radio had been sold to me for CAN \$195.00 .

This translated to US \$147.25 on the day the transaction cleared, or a discount of almost 25% !!! Frankly, that's a STEAL!!!

The radio itself is in excellent mechanical and cosmetic condition, but it has a couple of minor electrical problems that will be cured as soon as I get a manual (one is on the way). Even in it's currently ailing condition it's a pretty hot rig on 500 KHz; last night I logged a new country for me, marine station HPP in Panama. Not bad, especially when you consider that it's still on the workbench, tied to a short test antenna, not one of the LF / VLF antennas that terminate in the shack!

When we spray the bugs and play with it some more we'll put up a user's report on this thing. I may even do a head to head shootout between the SP-600-VLF and the Collins R-389.

In any event, when you see a BA rig listed here that you'd like to get hold of, but get turned off because it's in Canada, GO FOR IT!!! The whole importing thing, tho scary, isn't that bad! If I can do it, so can you.

73's,

Tom "Mr. T." Adams, K9TA

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: dmedley@indirect.com (David Medley)  
Subject: Economical tubes FS  
Message-ID: <199510211830.LAA25074@ns2.indirect.com>

Getting to the bottom of the barrel here. I have quantities of the following tubes for sale either in small or large lots. The larger the lot the lower the price. These tubes include 6V6G/6V6GB,24A,6F6/6F6G,metal tubes,33/34/35/37,6080,rectifiers,30/19,6C6/6D6  
These tubes are unboxed but test good. Please respond dmedley@indirect.com

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: BHall88620@aol.com  
Subject: Re: filter cap availability?  
Message-ID: <951021103629\_129345018@mail02.mail.aol.com>

>Hi All,  
>A friend asked me to give his aging Fender guitar amp a checkup. It looks  
>like the first filter cap has been leaking, and should be replaced.  
>I haven't bought a 450V electrolytic in probably 15 years. Can anyone  
>give me some clues as to the availability of 16mfd 450V filter caps?  
>I'd like to find at least one, and possibly up to three of them.  
>Anything between 16-30mfd should do fine. Any pointers on costs?

Hello Gary,

Looking in my Digi-Key catalog (order/catalog # 1-800-344-4539), they list polarized "Miniture Radial Lead Aluminum Electrolytic" capacitors in the following values at 450 WVDC:

cap, mfd	stock number	cost ea
-some lower values-		
10	P6197-ND	\$1.14
22	P6198-ND	\$1.82
-some higher values-		

No 16mfd, but maybe one of these is close enough?

Not sure if you can use polarized caps in your application (I am new to tube electronics), but I couldn't find any non-polarized electrolytics rated at 450 volts.

Ben

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: pmills@cyberhouse.com (Phil Mills)  
Subject: FS Collins again  
Message-ID: <199510211658.LAA00215@ns.cyberhouse.com>

Please forgive the extra bandwidth....I forgot this on my earlier post.

Collins crystal pack     \$135 incl. shipping.

thanks,  
Phil Mills, AB5TH  
pmills@cyberhouse.com  
713-482-2763

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: dmedley@indirect.com (David Medley)  
Subject: FS RME & National Speakers  
Message-ID: <199510211952.MAA13931@bob.indirect.com>

I have found two rather old speakers which I don't need. Here is a description of them:

1. In a funny shaped metal enclosure. Has three sides and an open back. The 8" speaker is clearly marked RME and has a very large U shaped permanent magnet. Works fine.
2. This one is in a 10" x 10" metal cabinet with the NC logo on the front. 8" speaker works fine. Probably goes with early HRO radios.

Anyone interested make a reasonable offer to dmedley@indirect.com

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: pmills@cyberhouse.com (Phil Mills)  
Subject: FS: Collins S-line & misc.  
Message-ID: <199510211621.LAA00149@ns.cyberhouse.com>

Ladies and Gentlemen,

I wish to sell the following items. If interested, please e-mail me for a detailed description. All is good to excellent

condition. Prices include UPS ground shipping in continental U.S.  
with exception as noted. All winged emblem except as noted.  
Will consider good 51J4 in trade.

thanks,  
Phil, pmills@cyberhouse.com

75S-1	Receiver	\$235	
75S-3	Receiver	\$275	
32S-1	Transmitter with Heath HP-23 power supply	\$250	
KWM-2	Transceiver with 516F-2 power supply	\$550	
30L-1	Amplifier	\$550	
30S-1	Amplifier	\$1,350	(shipping NOT included)
312B-4	Station Control	\$110	(round emblem)
Timewave	DSP-9 audio filter	\$50	

Phil Mills, AB5TH  
pmills@cyberhouse.com  
713-482-2763

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: Steve Ellington <n4lq@iglou.com>  
Subject: FS:Hammarlund BC-779-B Resiever  
Message-ID: <Pine.SOL.3.91.951021152555.29945A-100000@iglou>

BC-779-B reciever includes 110vac power supply, manuals plus Philco  
training manual. Works quite well. This is similar to the Super Pro 200  
series. Has two stages of tuner RF, 3 variable IF stages, xtal filter and  
PUSH-PULL Audio amp. Really cranks out the sound! \$200 plus shipping.

Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: "William C. Robbins" <billrobb@serv01.net-link.net>  
Subject: Heath Gear FS  
Message-ID: <199510212209.SAA09333@serv01.net-link.net>

After 2 weekends of hamfesting and trading gear with my son, it is about time to sell my excess gear.

National NC-98	Receiver-Excellent condition	\$95
Heath HM-102	SWR/Power meter for HF	35
Heath HM-2102	SWR/Power meter for VHF	35
Heath HD-15	Phone Patch	20
Heath HM-15	SWR Meter for HF	15
Heath AM-2	SWR Meter for HF	15
Heath HD-10	Electronic Keyer (Small Modification)	30
Heath DX-20	CW Transmitter (Modified)	45
Heath DX-20	CW Transmitter Parts Rig..No meter/knobs	25
Heath B-1	Balun Coil Set	25
Heath HD-20	Crystal Calibrator - External	15
Heath PM-2	Mobile Tuning Meter	15
Heath VX-1	Electronic Voice Control (VOX)	45
Heath CA-1	Conelrad Alarm	????
Heath VF-1	VFO	45

Whew. I think thats all. I also have a DX-60 but I need to check the power transformer.

73.....Bill WA8CDU

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: "William C. Robbins" <billrobb@serv01.net-link.net>  
Subject: Heath Manuals FS  
Message-ID: <199510212156.RAA09223@serv01.net-link.net>

I recently paid \$22 for a copy of Heath Mohawk receiver manual. I had to have one to restore the rig.

Well, when I came upon a private individual selling original Heath manuals, many which had never been used, I had to buy them for people like myself. They are all ham related. If you have a need, let me know. I am selling my duplicates.....not copies.

Please remember that I paid \$10 - \$20 for these so don't get upset when I

tell you the news. I will give the best price possible.

Thanks, Bill.

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: doonan@cordmc.dnet.etn.com (DENNIS DOONAN X6916 (KG9D0))  
Subject: HR0-5 how much?  
Message-ID: <9510211827.AA04585@etn.com>

Hi gang,

A local OT who is still active (with a silicon rig) has a NATIONAL HR05 (possibly TA1--not sure) with speaker and sloped front power supply. It has not been turned on in over 20 years. The insides look clean. The panel is very dusty and there is some light corrosion on the knobs, etc.

How much is this worth?? I want to get it to restore, but I want to offer him a fair price (but I don't want to burn money either since it will take some work). BTW the dial and knobs all turn but will need cleaning inside & out.

Any suggestions???????

TNX 73 de Dennis, KG9D0 doonan@cordmc.dnet.etn.com

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: Henry van Cleef <vancleef@bga.com>  
Subject: Re: Introduction  
Message-ID: <199510210636.BAA02720@zoom.bga.com>

As BHall88620@aol.com said

>

> Dear Folks:

>

> On the suggestion of Hank, I thought I would introduce myself. Doing this  
> earlier sort of slipped my mind; please excuse my poor manners.

>

Welcome to the magic world of "firebottles." I suggested that you let it be known what your background was, because a few of us oldtimers tend to forget that electronics from the 1930's and 1940's is prehistoric to younger people.

> I am a 22 year old engineer with a degree in Mechanical Engineering from the  
> University of Connecticut. I graduated in May, and have been living in  
> Alabama since I graduated. (Poor economics times in CT forced me to move  
> south)

You're lucky you aren't working with a bunch of oldtimers who lived



through the Great Depression. When I was your age, any time I complained about anything, somebody would go off on a diatribe about how lucky I had it, and then blather on for an hour about how grateful they were to have any job at all during the Depression.

Sad to say, the New England economy, in the past few years, has had some very close resemblances to the thirties.

>

> I do have some background in electronics, but tube electronics is new to me.  
> I have a few books on tube theory, and hope to have a working knowledge of  
> tube circuits fairly soon.

Between the scope and the radio you now have, and the old texts that you've picked up, you've got a fine "school" for learning. You'll probably want to pick up some more test equipment and get it working. A nice little service VTVM like the RCA VoltOhmysts, decent audio and RF signal generators, etc. are pretty cheap. Stan Griffiths will tell you the joys of owning and fixing a Tek scope, and I recommend getting his little book on the topic. My 533A earned its keep again tonight, debugging the Meissner EX signal shifter I just rebuilt, and it's got the advantage of keeping the place warm on a cool night.

>

> My interest in tube equipment and boatanchors comes to me through my  
> grandfather, who before he retired worked as a machinist, radio repairman, TV  
> repairman, and Master System Antenna specialist. He has quite a collection  
> of neat stuff that he likes to show and about whenever I visit. I think that  
> is what got me hooked on tube equipment.

Your grandfather sounds like a very interesting person, from what you've told me.

>

> Well, that is about. Just like to send my thanks out to y'all for all your  
> help so far, and for putting up with my silly "is this set running too hot  
> and do I need a transformer" questions.

>

In my book, the only dumb question is the one you don't ask, when you need to know the answer.

--

\*\*\*\*\*  
Hank van Cleef vancleef@bga.com vancleef@tmn.com  
\*\*\*\*\*

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: howellh@acad.winthrop.edu  
Subject: Is it a 75A2?

Message-ID: <95102104593579@acad.winthrop.edu>

WINTHROP UNIVERSITY

Electronic Mail Message  
Date: 21-Oct-1995 04:49am EDT  
From: Haney Howell  
HOWELLH  
Dept: Mass Communication  
Tel No: 323-4534

TO: Remote Addressee ( \_smtp%"boatanchors@theporch.com" )

Subject: Is it a 75A2?

Now that the HQ-110 is playing, I've decided to tackle my clean, but troubled, 75A2. Has some audio but no signal getting through. I've had this unit for ten years, and it played well until a couple of years ago. Here's the first puzzle. The tube lineup in my unit does not match the 75A2 book copy I'm using.

For instance, The book shows V1 as a 6AB6, while the chassis etching and tube show a 6CB6. V2 and V3 in the book show a 6BE6, while the chassis and tube show 6BA7.

Second mystery. My unit has the 75A3 filters (two plug in slots on top of the filter box). Did Collins upgrade this model mid-stream?

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: Sandra L Knepper <slkst29+@pitt.edu>  
Subject: Re: Is it a 75A2?  
Message-ID: <Pine.3.89.9510210748.A11749-0100000@unixs4.cis.pitt.edu>

The 75A-3 had provision for two mechanical filters that were positioned at right angles to the chassis. As far as the tube line-up, it would appear that someone has changed the mixer tube to a 6BA7. The first RF tube should be a 6DC6 or 6BC6.

I wonder if this set has been modified to accommodate a product detector to receive SSB?

Dave, W3BJZ

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: Sandra L Knepper <slkst29+@PITT.EDU>  
Subject: Re: Is it a 75A2?

Message-ID: <Pine.3.89.9510210716.B11749-01000000@unixs4.cis.pitt.edu>

I somehow did not read your post correctly. The 75A-2 did not incorporate any mechanical filter design. Collins did offer a retrofit kit for this receiver similar to the 75A-3 that could accommodate one filter that replaced V5 and T-4. I believe this unit had the 6BA6 on the subchassis. Mechanical filters were the rage of that era when first introduced in 1951(?). The early 75A-2 used a 6AK5 as the first RF tube and then Collins went to the 6CB6. The other tube lineup remained the same.

Two 6BA7's were used as the first and second mixers. The three IF's were used the 6BA6 tubes.

A very excellent modification article appear in QST for July 1955 beginning on page 25. The article was written by two Collins engineers who help design this receiver. I can make you a copy and anyone else if they write. Hope this helps.

Dave, W3BJZ  
Publisher of the monthly Collins Journal

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: "R. Dennis Gibbs" <dgibbs@rational.com>  
Subject: Re: Is it a 75A2?  
Message-ID: <Chameleon.4.01.951021091902.dgibbs@>

I have a 1954 catalog from the World Radio Laboratories. In it is an ad for a new 75A-3, for \$530. Immediately below the ad, there is the following paragraph:

=====

ATTENTION 75A-2 Owners:

75A-2 owners can return their receivers through World Radio Laboratories to be modified at the factory to incorporate the new Mechanical Filter arrangement. Modifications can be made, effective immediately, and will consist of the installation of a 3Kc filter, minor repairs, and complete realignment of the equipment. Your cost: \$125.00.

=====

The catalog also has a 75A-2A field conversion kit that could be purchased for \$100.00. It sounds like your 75A-2 may have had this treatment.

Dennis Gibbs  
dgibbs@rational.com

>The 75A-3 had provision for two mechanical filters that were positioned  
>at right angles to the chassis. As far as the tube line-up, it would

>appear that someone has changed the mixer tube to a 6BA7. The first RF  
>tube should be a 6DC6 or 6BC6.  
>  
>I wonder if this set has been modified to accommodate a product detector  
>to receive SSB?  
>  
>Dave, W3BJZ  
>

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: Grant Youngman <gyoungma@gtetel.com>  
Subject: Low-Z mic to Hi-Z input ??  
Message-ID: <Chameleon.951020225415.gyoungma@gyoungma.gtetel.com>

I'm trying to re layout the audio feed to my AM transmitters. Without boring  
you with the details of whats in the line, I have a question --

Any problems feeding a hi-z mic input from a low-Z single ended source (300  
ohms) presuming the level in the line output is high enough to overcome the  
impedance mismatch (and of course, low enough not to overdrive the mic input  
stage)??

Thanks .. Grant

-----  
Grant Youngman -- NQ5T

Once upon a time (and maybe again): K5VCM  
and for a while W0JXE, KH6HHC, WB4BBB

gyoungma@gtetel.com  
-----

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: bill@texan.frco.com (William Hawkins)  
Subject: Re: Low-Z mic to Hi-Z input ??  
Message-ID: <9510210606.AA00273@texan.frco.com>

Impedance matching at audio frequencies is quite different from RF  
or pulse work. Proper termination is not an issue. If the load  
draws power, like a speaker, you need to be in the ballpark - so you  
need a transformer to couple an 8 ohm speaker to a 600 ohm line.

But a high impedance input can look at anything, as long as the volts are within range.

I'd hang a 500 ohm or 1K pot on the 300 ohm output, and adjust the wiper for something reasonable at the mic input.

Ah, wait, the text of your message just said 300 ohm source, but the subject line says it is a low-z mic. Low-z microphones also have low output volts, so a transformer is almost always necessary. The reason for transforming the mic down to low z is to drive long cords, in a balanced fashion that reduces noise pickup.

Also, if you are dealing directly with an electromechanical transducer like a mic or phono cartridge, you need to give them rated load so that you will get rated frequency response.

Bill Hawkins bill@bvc.frco.com 612 895-2085 Minneapolis, MN USA

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: dmedley@indirect.com (David Medley)  
Subject: Millen GDM FS  
Message-ID: <199510211827.LAA13566@bob.indirect.com>

In the mess here I have found a James Millen Grid Dip Meter model 90651 in its original box with all coils but no manual. With it is a Millen Antenna Bridge model 90672. Anyone interested please make an offer to dmedley@indirect.com

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: howellh@acad.winthrop.edu  
Subject: More 75A2  
Message-ID: <95102105035937@acad.winthrop.edu>

WINTHROP UNIVERSITY

Electronic Mail Message  
Date: 21-Oct-1995 05:01am EDT  
From: Haney Howell  
HOWELLH  
Dept: Mass Communication  
Tel No: 323-4534

TO: Remote Addressee ( \_smtp%"boatanchors@theporch.com" )

Subject: More 75A2

My server chopped off the last of my query on the 75A2. My unit shows 75A2 on the chassis with serial # 1508.

Any suggestions? Anyone have a manual for this version? Any trouble shooting suggestions?

Thanks

Haney no2n howellh@winthrop.edu

+++++

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: KB9VU@aol.com  
Subject: Re: NBS clock.  
Message-ID: <951021041739\_50252280@emout06.mail.aol.com>

Heath still makes and sells the "Most Accurate Clock". Just got their new catalog with the educational supplies and there it was in the back of the book.

Mike, KB9VU

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: Neal McEwen <nmcewen@metronet.com>  
Subject: need parts for bug restorations  
Message-ID: <199510211520.AA26260@metronet.com>

Hello Gang,

I've got some restorations going and need a few parts to finish up.

1. Bunnell Gold Bug -- need the circuit closing lever and mounting hardware.
2. Signal Electric Semantic -- need the pendulum stop post.
3. Electro Bug -- need weights.
4. Levinson Radio "Like-A-Flash" -- need finger pieces, binding posts.

Would buy parts off your junkers or buy your junkers for the parts.  
Always looking for parts; what kind of junkers do you have?

--

73 de K5RW            - Neal McEwen                            - Richardson, TX (Dallas)  
\*\*\*\*\* I collect old telgraph and wireless telegraph keys \*\*\*\*\*  
HomeNet            - nmcewen@metronet.com                   - OS/2 tcp/ip SLIP

HomePage - [http://fohnix.metronet.com/~nmcewen/techno\\_weenies.html](http://fohnix.metronet.com/~nmcewen/techno_weenies.html)

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: Scott Alfter <salfter@accessnv.com>  
Subject: Re: OS-8E scope  
Message-ID: <199510210533.WAA15645@bighorn.accessnv.com>

On Fri, 20 Oct 1995 14:10:38 -0700, w0ogh@ix.netcom.com (Larry Godek) wrote:  
>I got one free gratis and its pretty clean. Has some display problems  
>(like horizontal pos for one) and I would like to make it work better.  
>Anyone with a schematic or manual for it?

Fair Radio, if I remember right, has OS-8 manuals. (I need to pick one up myself; bought an OS-8C from them and was able to get the horizontal sweep oscillator working more or less correctly by replacing the capacitors in that section (when it arrived, horizontal sweep was fairly nonlinear), but there are probably some other tweaks that ought to be made to get everything in peak working order.)

Scott Alfter

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: TOM.A.ADAMS@mail.admin.wisc.edu  
Subject: Parts for Hartley  
Message-ID: <FAKM5535.FAKM5547@mail.admin.wisc.edu>

to: boatanchors@theporch.com

Greetings.

In the quest to build a Hartley rig (I scrapped plans for the push-pull, and started fresh on a single tube job), I've been scrounging around for all the period components I could lay my hands on. I dug into a real vintage gold mine, the chassis of an old Atwater Kent model 55 that I'd cannibalized for parts to restore a set that was in better shape. Those big variable capacitors were what caught my eye. They turned out to be an immediate problem tho.

After chopping two of 'em off of the chassis, I stuck 'em on the old General Radio capacitance bridge on my workbench to find out what they were good for in terms of capacitance.

On the first attempt to measure 'em I couldn't get a null on the bridge at all! Cranking up the power factor dial all the way I got a very weak and diffuse null on the bridge. TERRIBLE power factor!!!

These critters were clearly worthless as is, so I figured I had nothing to lose. My guess was that the insulation was so filthy that the juice was all leaking across it. It was so bad that a check with the Simpson showed less than 50K resistance across each cap!

What the hell... toss 'em in the dishwasher!

After washing, the caps were placed in clean hot water for a half hour or so to clean out as much soap residue as possible.

After allowing 'em to dry, they were checked again. Still terrible, but somewhat better; at least now I could get a fairly sharp null, and the resistance was reading a lot higher than before.

Power dissipation was reading in the general area of .07% ; a good variable capacitor normally reads in the area of .002% on my bridge. I was about to give up on these beasts, but I had one more hunch.

I pulled out my trusty heat gun, normally used for shrinking the fabric on model airplane wings, and played it's air stream on the sheet phenolic insulation.

As I watched the bridge, the power factor got WORSE as the phenolic got hotter. Aw, hell... I'd hoped that the heat gun would get rid of any last traces of water, and make the caps get better.

I turned off the heat gun, and left the capacitor hooked up as I went to get something out of the refrigerator.

When I came back a few minutes later, the bridge had gone off the null. Out of curiosity, I renulled it, and found, much to my surprise, the power factor had gone down appreciably, from .088% to .065% !

As the capacitor continued to cool off and I renulled, the dissipation factor steadily dropped. In a half hour or so, it had plunged all the way to 00775% ! The same thing happened when the heat gun treatment was given to the second salvaged capacitor.

The only thing I can figure is this; the phenolic sheet insulation had, while picking up a layer of grime, also soaked up a lot of humidity. The dishwasher treatment had relieved the grime problems, but made the water absorption problem worse. The heat gun turned it into steam and released it, but it took time for the steam to all escape from the phenolic. As it escaped, the power dissipation factor naturally got better.

I've never heard of phenolic absorbing water before, but hey, I'm not complaining about the results! I've now got a couple of variables for my



Hartley that the RF won't destroy, so I'M a happy camper!

If you're using ancient broadcast variables like this in your Hartley Happening rig, try heat gunning 'em or carefully baking 'em for awhile before you shoot the juice to 'em; the insulation is less likely to track and burn when you fire that rig up.

73's,

Mr. T.

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: TOM.A.ADAMS@mail.admin.wisc.edu  
Subject: Re. Homebrewed Mod Xfirms  
Message-ID: <FALG1832.FALG1842@mail.admin.wisc.edu>

to: boatanchors@theporch.com

In reference to the questions obviously aimed at finding modulation transformer substitutes;

I seem to remember a Lew McCoy article in QST in the '60s about using POWER TRANSFORMERS as modulation transformers!

I don't remember the issue, and I haven't gotten around to getting a CD ROM index for QST yet, so I can't steer you any closer than this.

The concept seems to me to be reasonable, assuming (A) the power in watts the power transformer is rated to deliver is equal to or greater than the average audio power you want to run, and (B) the transformer insulation is adequate to handle the wierd and exceedingly high audio voltages developed.

Upon hearing about this a buddy of mine opined that the audio from such an arrangement must sound like hell; REALLY heavy in the 60 Hertz range.

Not at all. Such a statement indicates a lack of understanding of how a power transformer operates.

Heavy 60 Hertz response would imply that the transformer is inherently resonant at that frequency. No way; resonance at the operating frequency is something to be avoided at all costs in power transformer design. Currents and voltages within the windings would go crazy, and output regulation with load variation would be nonexistent!

My friend MAY be right, perhaps the audio WOULD sound like crap. If this IS

the case tho the cause wouldn't be 60 Hertz resonance!

BTW, on the subject of audio power level:

According to older editions of "How to Become a Radio Amateur" (ARRL, roughly '60s vintage), you can fudge the power ratings on mod transformers somewhat. The published rating can be exceeded by approximately 50%, assuming you're not using audio processing, and assuming the power increase doesn't exceed the DC current ratings of the windings. The reason for this is that the audio power rating is based on SINE WAVE power output. The human voice, while it hits peaks that are pretty humongous, comes nowhere near packing the average power that a sine wave does.

The tradeoff on this is that the THD (Total Harmonic Distortion) figures from the modulator aren't gonna be as good as they would be when running the transformer within it's published ratings; bear in mind, after all, that the transformers ratings are essentially based on power output BELOW a given THD figure, NOT on the wattage it takes to blow the transformer to hell!

One other useful tidbit from "How to Become..." is this.

In choosing a modulation transformer, the important thing is NOT to match the exact impedances marked on the transformer. Far more important is to consider the transformer as what it is, an impedance matching device; i.e., the TURNS RATIO counts for much more than do the neat little numbers printed on the transformer case!

For example, a transformer which is marked as matching 12,000 ohms plate to plate to a load of 6000 ohms, can also be reasonably expected to do a good job of matching 6000 ohms P-P to a load of 3000 ohms, or matching 9000 ohms P-P to a 4500 ohm load.

Once again, there's a tradeoff; the audio response curve of the modulator's output could be somewhat different than the curve you'd get when using the transformer at the rated numbers.

Using this concept you can, within reason, utilize a mod transformer FAR more flexibly than the published figures on it would indicate.

The point of all of this is that there's nothing sacred or magic about modulation transformers. You can play some games here, and the result won't only work, but will probably work pretty damned well.

Just a few thoughts on the subject from a MAF (middle aged version of an OF!).

73's,

Mr. T., K9TA

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: Bob Roehrig <broehrig@admin.aurora.edu>  
Subject: Speaker matching  
Message-ID: <Pine.ULT.3.91.951021131458.10328A-1000000@admin.aurora.edu>

The subject came up a while ago about matching a speaker to a 500 or 600 ohm output that many BA receivers have. I stated that a filament transformer would work and someone else mentioned using a "line to voice coil" transformer. Since it had been a while since I encountered this impedance matching problem, I verified both methods.

1) A 12.6 volt filament transformer has a turns or voltage ratio of approx 10:1. Therefore the impedance ratio is 100:1. Thus this would give you a 600 to 6 ohm transformation, which should be close enough for either a 4 or 8 ohm speaker. A 1 amp job should be plenty big (12 watts).

2) I checked a Stancor A-8077 Line to voice coil transformer. The primary has 1.5, 3, 6, 12, and 24 watt taps. The secondary has 4, 8, and 16 ohm taps. Using the 6 watt primary tap indeed matches to the 4, 8, or 16 ohm outputs.

Bob, K9EUI

From boatanchors@theporch.com Sat Oct 21 22:11:00 1995  
From: StuSanders@aol.com  
Subject: Tube Synthesizers  
Message-ID: <951021143543\_50475559@emout05.mail.aol.com>

I have a bit of info on tube synthesizers as derived from my HP8551 analyzer and a manual on the Collins ARC-38. These rigs both used a low-freq. crystal ref osc

and tube flip-flops to generate lots of harmonics at the desired step size.

The desired frequency was then selected via a sharp tuned circuit (tracked) and applied to a discriminator, which locked the loop. The ARC had a step of 500 Hz

but had a long lock time due to the selsyns and servo motors. The 8551 is different

in that the operator has to manual set up the loop rough tuning so that the desired

harmonic is used. I believe both used injection locking of the L0, which is an interesting technique in itself.